Standard Procurement System–Interfaces™

Paperless Data Exchange

SPS-I v4.0 Training Manual

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Introduction

Objectives of this Manual

The manual serves to train the SPS-I site administrator in the operation of the SPS-I Interface Manager (IM) and the Interface Agent software (IA).

The IM application is the vehicle through which the IM administrator configures the interfaces. The IM GUI allows the administrator to define interface files, associate files with a system interface, schedule interface execution, configure the file directory, write to the interface database, view interface execution statistics and status information, and perform other tasks related to the administration of interfaces.

The IA application acts as the engine that moves interface files between the file directory and the PD^2 database. The IA also processes the interface files. The IA contains a minimal graphical user interface that displays status information to the user. For the incoming files which move from the external system to PD^2, the IA reads interface instructions from the IDB, picks up the interface files from the file directory, and writes the external system data to the PD^2 database. For outgoing files, the IA writes status and statistics to the IDB.

In order to understand the SPS-IM functions, the user will need to become familiar with the fundamental framework of the SPS-I system that includes the following components:

- PD^2 Database
- Interface Database
- Interface Agent
- Interface Manager
- File Directory

What is SPS-I?

SPS-I supports on-going data exchange between the Standard Procurement System (SPS), commercially known as Procurement Desktop Defense (PD²), and external systems that maintain functional communities such as Finance and Logistics.

Essentially, SPS-I does not create *any* data. Rather it moves data created by other applications, such as requisition data, for loading into PD² or it moves data created by PD², such as contract award data, for loading into other external databases. The SPS-I extracts data from the PD² database to build outgoing interface files and inserts this data into the PD² database received via incoming interface files.

In addition, the SPS-I provides a user interface through which the SPS-I Administrator may enter and change certain interface execution parameters such as frequency, file name, and participatory sites. The SPS-I Administrators can also track the execution of each interface and provide details concerning the success or failure of an interface execution.

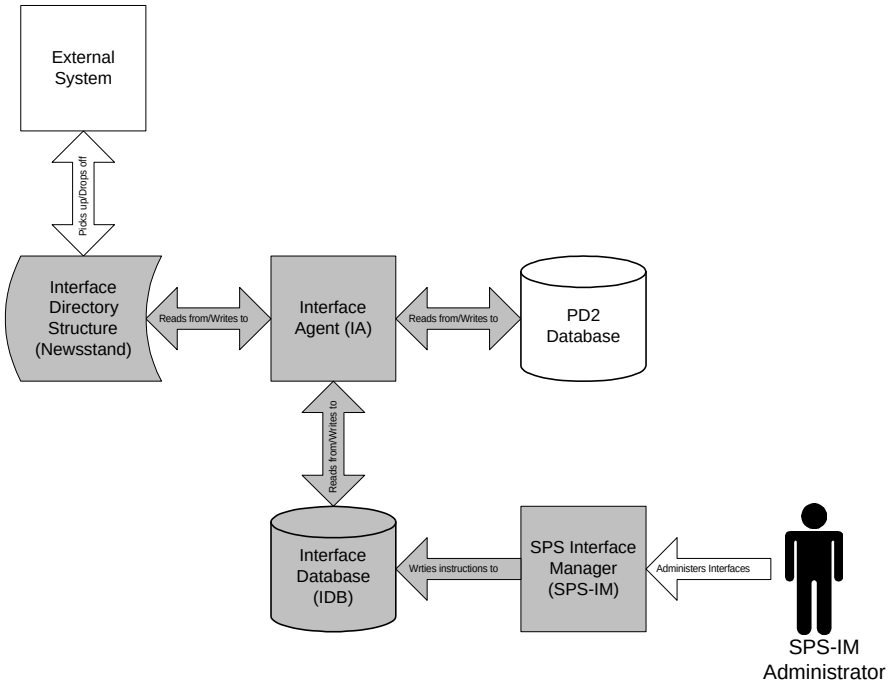


Figure 1: SPS-I Paperless Data Exchange

SPS-I Components

SPS-I was developed using object-oriented (OO) techniques. The OO methodology promotes code reuse and consistency. This approach, combined with the data-driven nature of SPS-I architecture and versatile configuration of SPS-I components, provides maximum flexibility, code re-use, and software maintainability. Figure 1 graphically illustrates the SPS-I architecture

which consists of five distinct components: the PD² Database, Interface Database (IDB), Interface Agent (IA), SPS-Interface Manager (SPS-IM), and one or more File Directories.

PD²Database

A Sybase relational database that stores data entered or accessed by the PD² product. The PD² database is the source or final destination of data transmitted in interface files. This database serves as the repository for procurement business data such as requisitions, awards, and modifications.

Interface Database (IDB)

A "rules" Sybase relational database that stores formats, formulas, procedures, and parameters that govern the execution of each interface. IDB also stores data generated as each interface is executed in order to track the success or failure of processing. The IDB contains interface Metadata (data about data) only. The default size of the IDB is 100 MB and the transaction log is 25 MB.

The IDB comes preloaded with both descriptive data and static formulas/execution parameters. It stores three types of interface information:

- descriptive metadata (data about data) about interfaces and elements – includes definitions of incoming and outgoing elements and business rule descriptions.
- static formulas and execution parameters – contain the necessary parameters for interface execution, but cannot be changed through the IM.
- adjustable execution parameters – also necessary for interface execution but are specific to a site and determine how interfaces are executed at that site. The SPS-I Administrator enters adjustable execution parameters in the IM.

Interface Agent (IA)

As an executable the IA cannot be seen visually or manipulated directly. It serves as the processing "engine" or "workhorse" and executes each interface in accordance with the "rules" stored in IDB.

The IA contains a default log stored on the main drive of the IA machine. The log stores transaction information about processes executed through the IA. The IA also writes backup files for all outgoing interface files. In addition, the IA contains a configuration screen for debugging, allows one to specify where to place back-up files, and set passwords for the IA to connect to the IDB.

SPS-I Manager (SPS-IM)

SPS-I interfaces are administered through the graphical user interface (GUI). SPS-IM allows the SPS-I Administrator to specify and modify how interfaces are executed by adding or editing the data in IDB. SPS-IM also displays tracking data generated during interface execution. It consists of the following components:

- Collections
- Collection Sets
- Directories

- PD² Databases
- Sites
- External Systems
- Interfaces
- Statistics

File Directory

The storage location of the incoming and outgoing interface files. A different file directory can be selected for each interface file. Directories are located in "mapped" drives on the IA machine.

The file directory is a repository for incoming and outgoing file-based data. In that regard it may be understood as a "newsstand" to store data for processing by the External Systems in the case of PD² outbound files, or processing by SPS-I, in the case of inbound PD² files. External systems "drop off" and "pick up" interface files at the file directory.

Start Up and Basics

Start Up and Basics Objectives

At the end of this lesson, users will become familiar with the fundamental framework necessary to access the Standard Procurement System – Interface Manager (SPS-IM) and the Interface Agent (IA). Users will also acquaint themselves with the System Administration tasks and functions in SPS-IM, and understand how these SPS-IM tasks and functions are fundamental to the execution of interfaces between PD² and external systems.

Users will learn how to:

- Access SPS-IM from his/her workstation.
- Recognize SPS-IM functions.
- Successfully navigate through the application and identify the organizational structure of the SPS-IM.
- Operate the IA Configuration Utility.

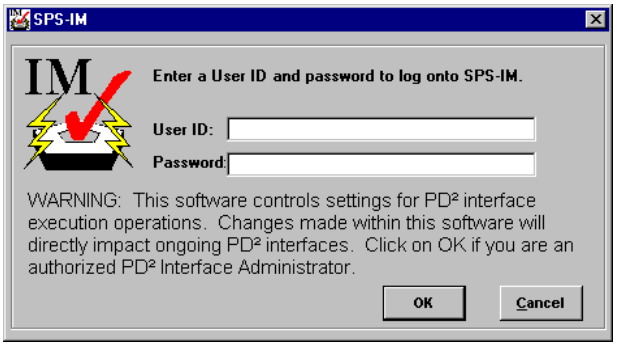
Topic 1: SPS-IM Access

Once launched, SPS-IM displays a Logon Window requesting a User ID and Password. Enter a valid User ID and Password to access SPS-IM. SPS-IM will validate the data and display the SPS-IM workspace. If incorrect data is entered, SPS-IM will display an error message.

The user name and password control access to SPS-IM. Local Database Administrators provide access to individual users. Once you have logged into SPS-IM, all subsequent logins will default to the previously entered User ID. You will be only prompted for your password.

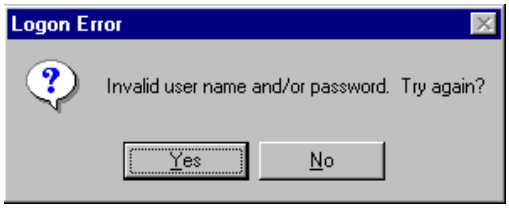
To logon to SPS-IM:

1. Clicking on your Windows **Start** menu, select the **SPS-IM** icon under **Programs/ Procurement Desktop/**.



2. **User ID** (Mandatory): input a User ID that can be up to 30 alphanumeric characters.

3. **Password** (Mandatory): enter a password that may be up to 30 alphanumeric characters. If an incorrect password is supplied a "Logon Error" message appears. Click on **YES** to return to the SPS-IM logon.



4. Select **OK** to access the SPS-IM.

Note: The warning message serves to confirm entrance into the SPS-IM. It also warns the System Administrator that any changes made will impact operations at all interface sites.

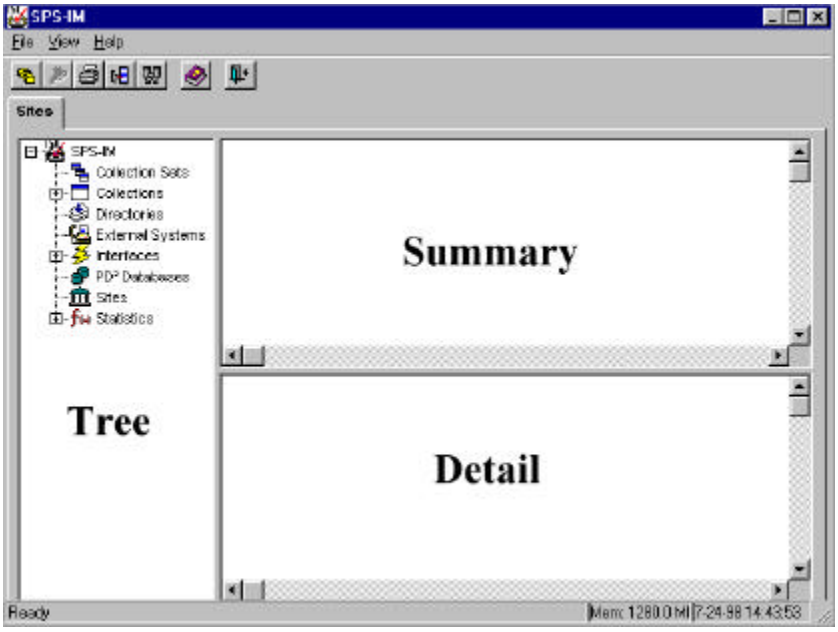
Topic 2: SPS-IM Desktop Orientation

The SPS-IM Desktop reflects the scheme employed by the Windows Explorer operating environment. While the look is similar in the visual context, SPS-IM employs unique features to accommodate the SPS-I administrator in the operation and maintenance of the interface data.

Note: Navigation of SPS-IM allows for the ability to right click for options where applicable.

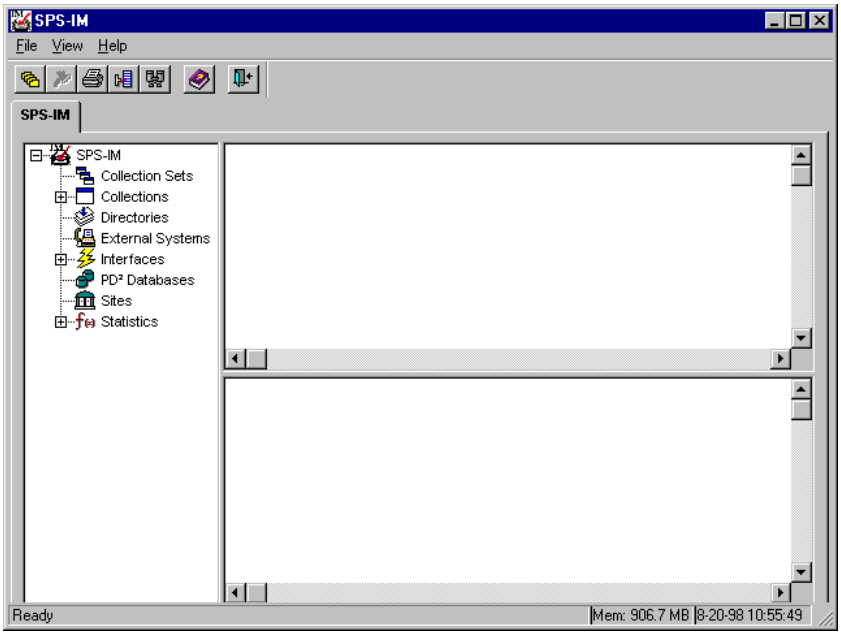
Workspace Tab

SPS-IM utilizes a three-pane concept to organize the application. This concept allows for rapid transition among various levels of detail and among different types of interface data. Once a user has successfully logged on for the first time, he or she can immediately begin viewing, adding, and editing data. The three panes include **Tree**, **Summary,** and **Detail**.

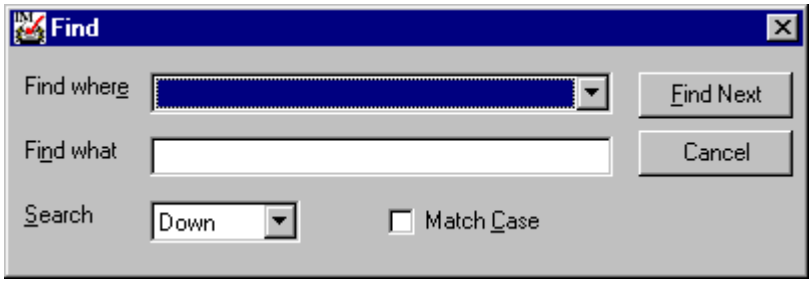


- **Tree:** Within the Tree Pane users can select branches, expand/collapse certain branches, and add new items within a branch.
- **Summary:** The Summary Pane displays individual items, or instances of a branch or sub-branch selected in the Tree Pane. Within the Summary Pane users can select, delete, and edit items. Users can also select, resize, or reposition columns. A user can even sort the list of items and search for items containing specific text.
- **Detail:** The Detail Pane displays additional data that describes and defines an item selected in the Summary Pane. To view specific data in the detail pane, select a branch in the tree pane, then a specific branch item in the summary pane. Users cannot edit or manipulate data in the Detail Pane. Scroll bars will appear as necessary to allow users to view data that does not fit within the confines of the Pane.

Desktop Navigation



- **Window Bar:** Title Bar, Minimize, Maximize, and Screen Restore.
- **File Menu:** New Tab, Print, Page Setup, and Exit.
  - **New Tab** and **Remove Tab:** allows for the creation or deletion of views on the interface data. Multiple tabs may be created to allow for quick access to information according to desired views.
  - **Print:** prints the active pane contents and provides options for printer selection.
  - **Page Setup:** manipulates the page orientation for printing.
  - **Exit:** quits the SPS-IM application.
- **View Menu:** Find and Sort.
  - **Find**
    1. Select a component.
    2. Single click on the Summary Pane.
    3. Choose **View** and select the **Find** option.

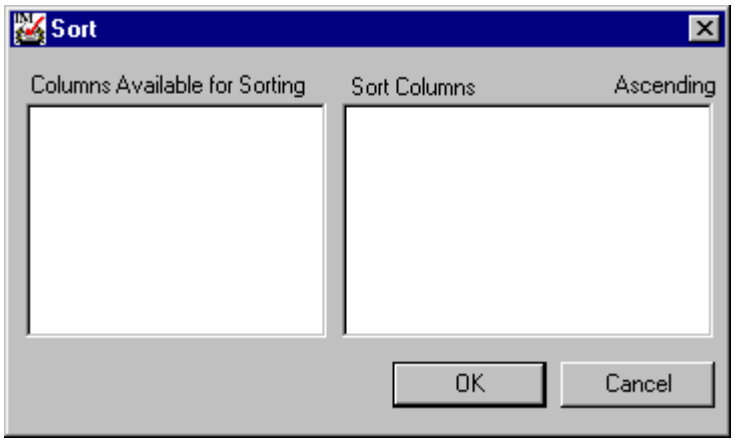


4. Select where you will search in "Find where." Input the term you are searching for **Find Next** and the **Find** option then searches for an item that contains the specific text string.

➢ **Sort**

1. **Sort** follows the same steps (steps 1-3) as the **Find** function.

- The **Sort** option orders information by multiple columns. The "Columns Available for Sorting" and "Sort Columns" will be populated dependent on the item selected.



2. Click on **OK** or **Cancel**.

- **Help Menu:** Help Topics and About SPS-IM.

  The Help Menu works in tandem with this training manual. It enables users to identify enhancements included in the most recent version of the software and provides a detailed **Help Topics** library.

- **Toolbar:** A quick way to operate the following functions – **New Tab, Remove Tab**, **Print**, **Sort**, **Find**, **Help**, and **Exit**.

- **Status Bar:** displays SPS-IM status and date.

Topic 3: IA Configuration Utility

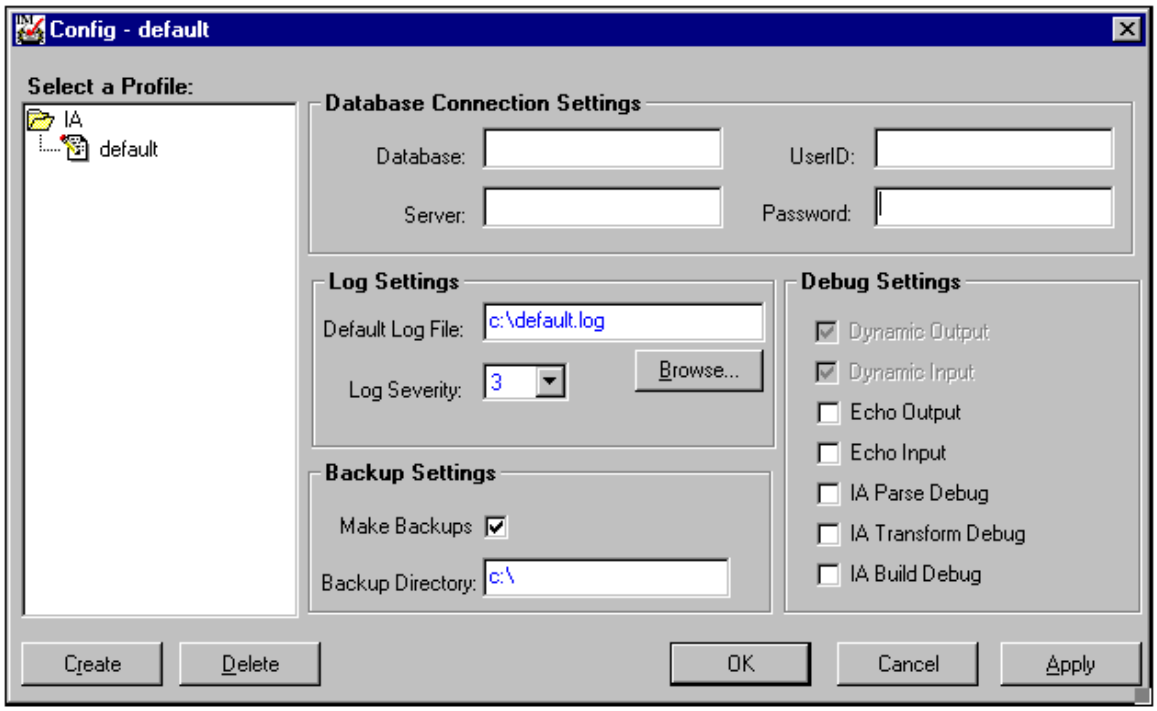
All the connection information for the IA is pre-populated during installation and once set-up it rarely needs modification. If it becomes necessary to change these settings, however the Interface Agent Configuration Utility allows the user to modify the registration entries for the IA. It allows the system administrator to change default settings for the backup, log, and debug settings.

Operating the IA Configuration Utility

1. Clicking on the Windows **Start** menu, select **SPS-I Interface Agent Profiles** under **Programs/SPS-I**

2. Click on the default icon in **Select a Profile** column. This will populate all the fields in the dialog.

Note: Clicking the **Create** or **Delete** push buttons in the lower left-hand section of the screen will allow the creation and deletion of profiles.



Database Connection Settings

The Connection Settings grouping includes the following fields:

- *Database*: physical name of the IDB accessed by the IA.
- *Server*: the Sybase server entry used to access the IDB.
- *User ID*: Sybase user ID used to access the IDB.

- *Password*: Password for the User ID.

Log Settings

The user may set the **Log Severity** level. The log setting controls back up files. It allows the system administrator to specify where the **Default Log File** should be located. The severity levels provide varying degrees of detail in the log, 5 being the lowest, and 1 produces the highest amount of detail that will dramatically increase the size of log the files. AMS recommends retaining the default setting at 3 unless advised differently by AMS staff.

Back Up Settings

IA will make a backup copy of all incoming and outgoing files if Make Backups is checked. The backup file will be named <filename>.mmddyyhhmmss, where <filename> is the name of the interface file and mmddyyhhmmss is a timestamp. Backup files will be placed in the directory specified in Backup Directory.

Debug Settings

Additional data will be generated if the debug settings are selected. These are advanced settings that produce information useful in resolving SPS-I interface issues. They should be left off unless instructed otherwise by AMS staff.

- *Echo Output*: produces a spreadsheet version of output data in c:\ directory.
- *Echo Input:* produces a spreadsheet version of input data in c:\ directory.
- *IA Parse Debug*: produces several files containing information on file parsing operations. Files are written to the c:\ directory.
- *IA Transform Debug*: directs IA to continue processing element transformations regardless of transformation errors. This is useful to get a full picture of problems with one test execution.
- *IA Build Debug*: produces several spreadsheets in the c:\ directory.

 **Note:** The settings will produce a large amount of files for each run, therefore the number of files in the backup directory should be monitored.

Key Points

- The user name and password control access to SPS-IM. Local Database Administrators provide access to individual users.
- The SPS-IM design reflects the Windows Explorers operating environment with unique features to accommodate the SPS-I administrator.
- SPS-IM utilizes a three-pane concept to organize the application.
- If it becomes necessary to change the connection settings, the Interface Configuration Utility allows the user to modify the registration entries for the IA.

Foundation and Set-Up

Foundation and Set-Up Objectives

Users will be able to perform the related tasks supporting SPS-IM and understand that these tasks are required for the execution of the SPS Interfaces. Users will gain understanding in the following elements of SPS-IM:

- Collections
- Collection Sets
- Directories
- PD² Databases
- External Systems
- Sites

The workflow diagram visually demonstrates the distributed nature of the SPS-IM and the relationship between the components.

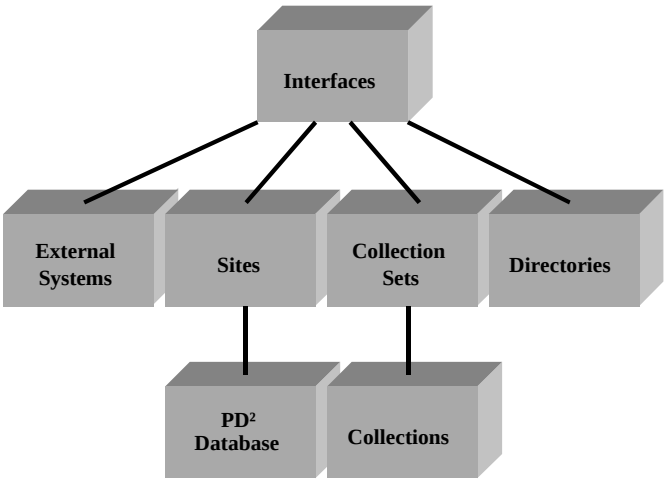


Figure2: SPS-I Workflow Diagram

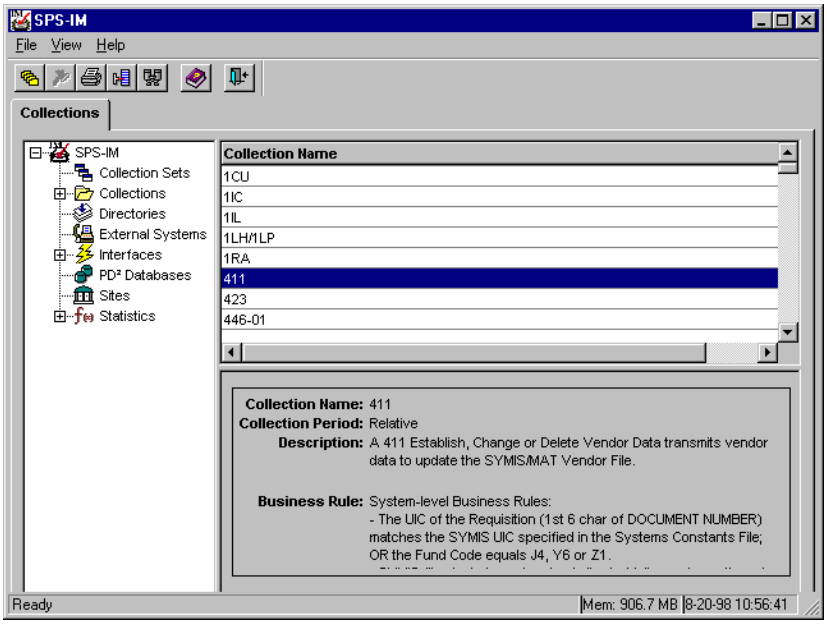
Topic 4: Collections

A collection is a physical grouping of elements that have defined contents, physical characteristics, and business rules. They are the foundation for building interfaces. Collections are also referred to as "record formats," "files," "transactions," or "transaction sets."

Collections were created during requirements gathering sessions with the Government. Collections are read only, and the elements within collections are defined prior to SPS-I deployment therefore cannot be edited via SPS-IM.

View the Collections Branch

1. Click on the **Collections** option in the Tree Pane.



Summary Pane

- *Collection Name*: the name of the collection.

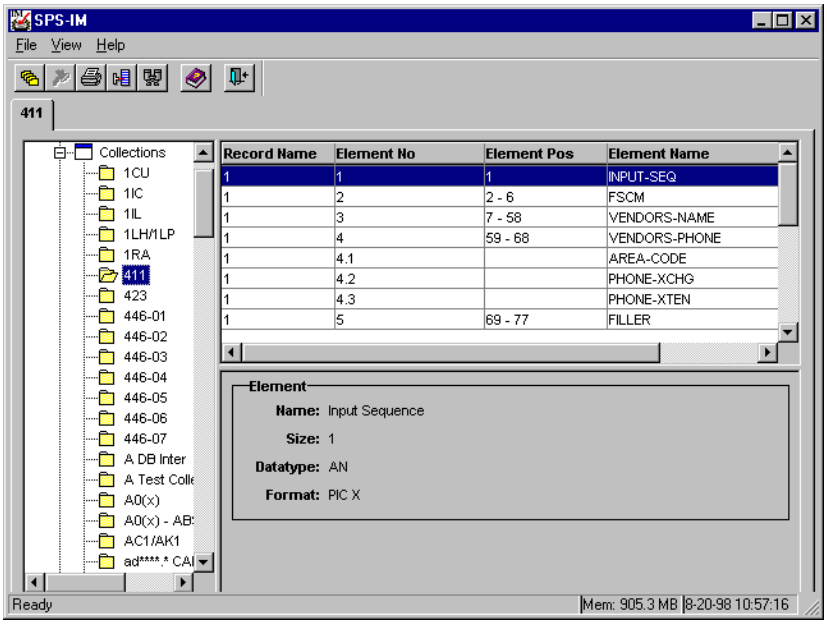
Detail Pane

- *Collection Name*: the name of the collection.
- *Collection Period*: the business period/time associated with the collection. An incoming file collection period remains blank.
- *Description of Collection*: provides a short explanation of the collection.
- *Business Rule*: description of when and why the collection is sent to/from an external system.

Note: In order to manipulate the text within the detail pane click on the screen and move the cursor to the desired place.

Click on "+" in the Tree Pane and a drop down list of collections will appear.

2. Select one of the **Collections** in the Tree Pane. Data about the selected collection is displayed in the Summary and Detail Pane.



Summary Pane

- *Record Name*: the name of the record within the collection. The record name is the collection when the collection contains only one record.
- *Element No.*: the number of the elements within the collection. Composed data elements have dot extensions Element Numbers (i.e., 2 Name, 2.1 First Name, 2.2 Last Name).
- *Element Pos.*: the position of the element within the collection.
- *Element Name*: the name of the element within the collection. Element names conform to the names agreed upon by the interfacing communities.

Detail Pane

- *Name*: same as "Element Name." The name of the element within the collection.
- *Size*: the length of the element.
- *Datatype*: the datatype of the element (i.e., AN, N).
- *Format*: any special formatting associated with the element (i.e., YYMMDD, NNNN.NN).

Topic 5: Collection Sets

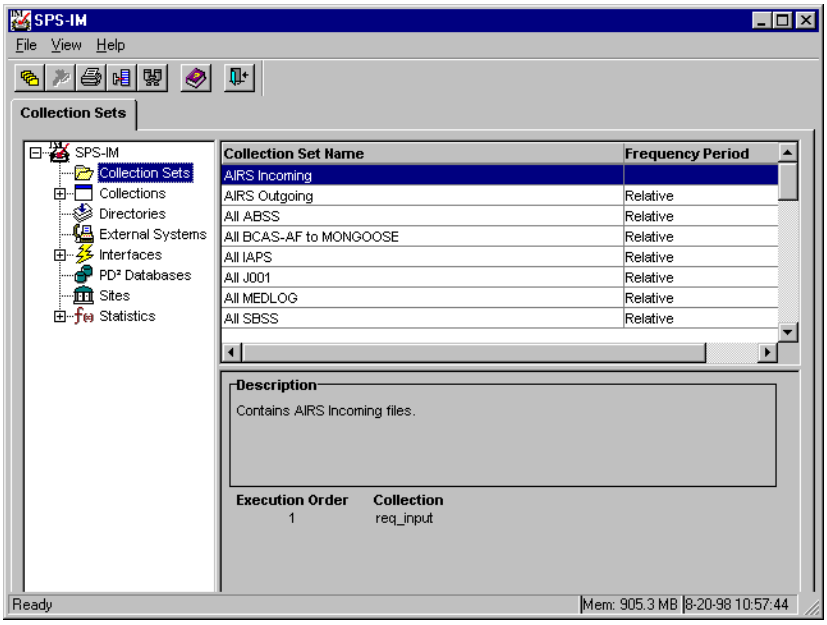
Collection Sets are groups of collections that are executed together in a specific order due to dependencies and processing times (i.e., daily, monthly, or quarterly). Processing dependencies include order dependencies (e.g., A must be processed before B), header and trailer dependencies, and trigger dependencies (e.g., send A in response to receipt of B).

Collections with processing or physical storage dependencies *must* be grouped together into the same collection set because they are placed in the same physical input or output file. However, non-dependent collections may also be grouped into a single collection set as a convenience.

Note: Each collection set must have at least one collection. Once a collection set has been created, it can be selected within an interface to be executed at specific sites. There are no limits to the number of collections that can be included in a collection set. On-site the frequency of an execution is specified at the collection set level.

Create a New Collection Set

1. Right click on the **Collection Set** branch in the tree pane.



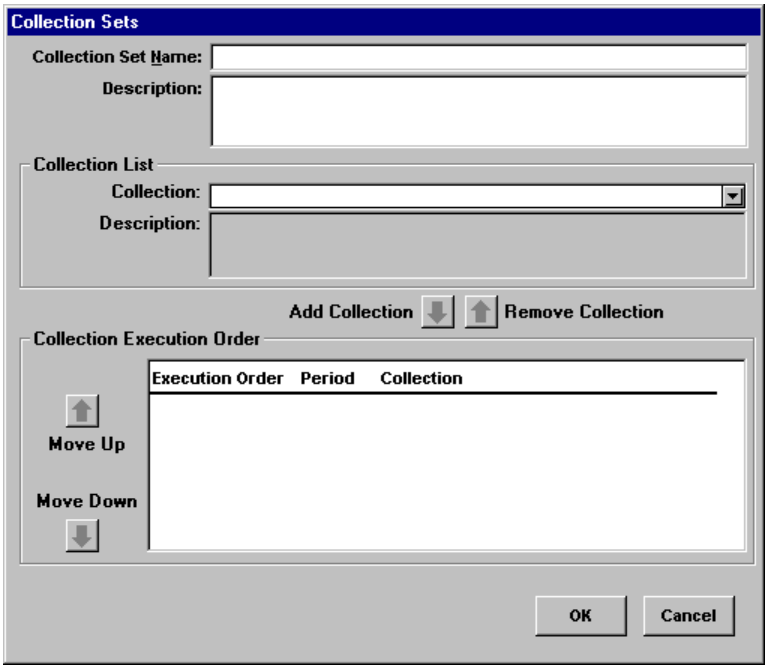
Summary Pane

- *Collection Set Name*: indicates the name of the collection set.
- *Frequency Period*: indicates the frequency with which the collection set is executed (i.e., relative, weekly, monthly, etc.). This field is calculated for the user based on the frequency periods of the collections added to the collection set.

Detail Pane

Description: provides a short description of the collection set.
Execution Order: indicates the collection execution order within the collection set.
Collection: drop down list that displays all available collections within the collection set.

2. Select **Add Collection Set.**



3. Enter a **Collection Set Name** (Mandatory). Limited to 40 characters. Collection Sets cannot be given the same name. The new collection set will be inserted alphabetically.
4. Enter a **Collection Set Description** (Optional). Limited to 255 characters.
5. Select a **Collection** from the **Collection List** and then **Add Collection** (Mandatory). When a collection is selected, a short description will display below the highlighted collection name. Included in this description is the collection's frequency period. The user may also remove a collection by highlighting the collection and selecting the **Remove Collection** option.
6. Identify the **Execution Order** (Mandatory). The Collection Execution Order may be arranged by selecting an individual collection and clicking on the **Move Up** or **Move Down** arrows.
7. Select **OK** to save your new **Collection Set.**

Edit a Collection Set

1. Click on the **Collection Set** branch.
2. Right click on the first **Collection Set** and select **Edit Collection Set.** If you select an additional **Collection** to add to the **Collection Set,** the **Add Collection** radio button will be activated.
3. Select **OK** to save changes to the Collection Set and return to the **Collection Set** Tab.

Delete a Collection Set

1. Select a **Collection Set**, right click and select **Delete Collection Set**.
2. Select either **OK** or **Cancel** to continue.

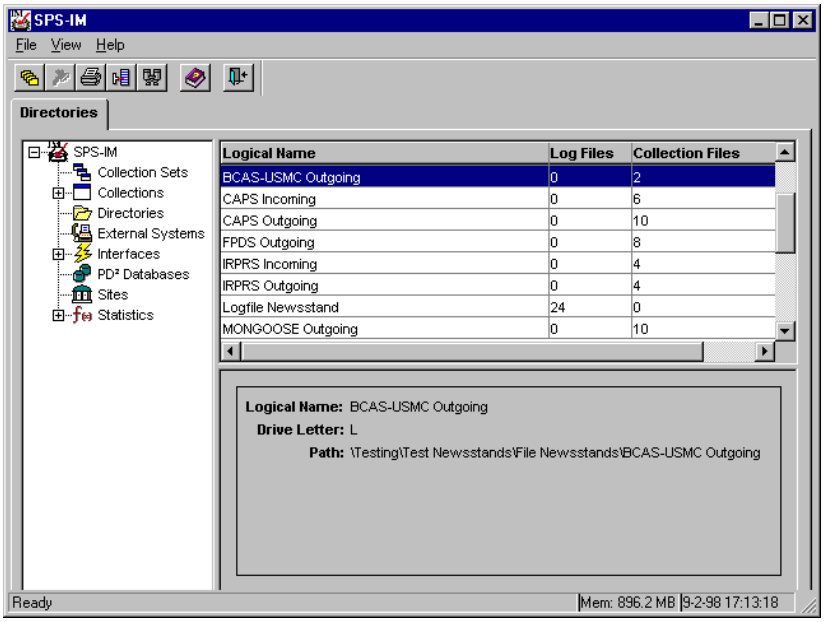
Topic 6: Directories

Directories are physical locations where SPS-I will place or receive interface files and log files. These file repositories are mapped drives from the IA host machine and are added during installation of SPS-I at each site. Directories contain a drive letter (e.g., C'is usually the hard drive) and a path (e.g., \interfaces\newsstand).

Note: Directories are added during installation of SPS-I at each site. Users select directories for the interface and log files when adding an interface.

View a Directory

1. Click on the **Directories** option in the Tree Pane.



Summary Pane

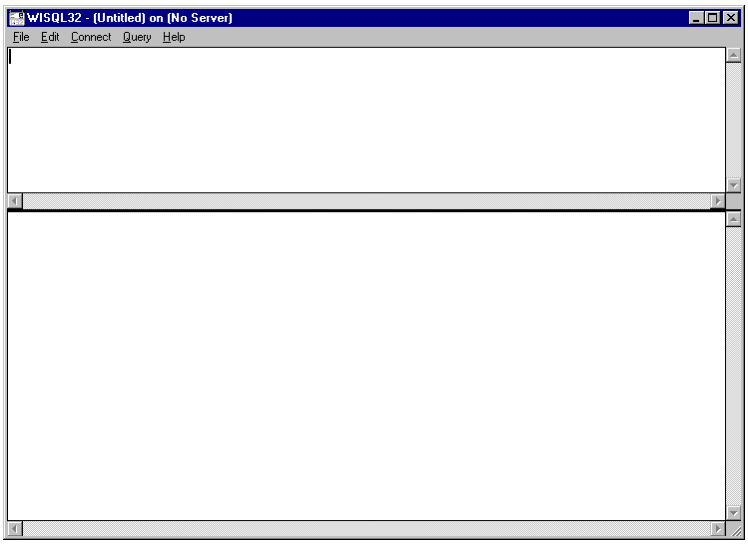
- *Logical Name*: indicates the logical name of the directory.
- *Log Files*: displays the number of log file directories per directory.
- *Collection Files*: displays number of collection file directories per directory.

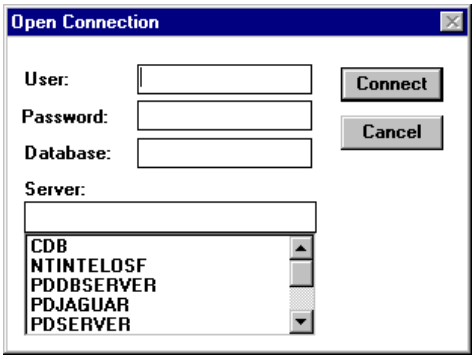
Detail Pane

- *Logical Name*: indicates the logical name of the directory.
- *Drive Letter*: indicates the letter of the directory path as mapped from the IA NT host.
- *Path*: indicates the path for the directory as mapped from the IA NT host.

Adding a Directory

1. Open the WISQL query utility. WISQL is found in the bin directory where IM is installed.
2. Select **Connect** and **Open Connection** to logon to WISQL.





3. **User ID** (Mandatory): input Sybase system administrator User ID.
4. **Password** (Mandatory): enter the Sybase system administrator Password.
5. **Database** (Mandatory): connect to the IDB database.
6. **Server** (Mandatory): select the IDB Server.
7. Access the "Adding/Deleting a Directory.rtf" document found in the bin directory where IM is installed. The document provides the necessary SQL statements to cut and paste into WISQL.
8. In WISQL, paste the SQL statements in the top pane.
9. Select **Query** and **Execute** to add the directory.

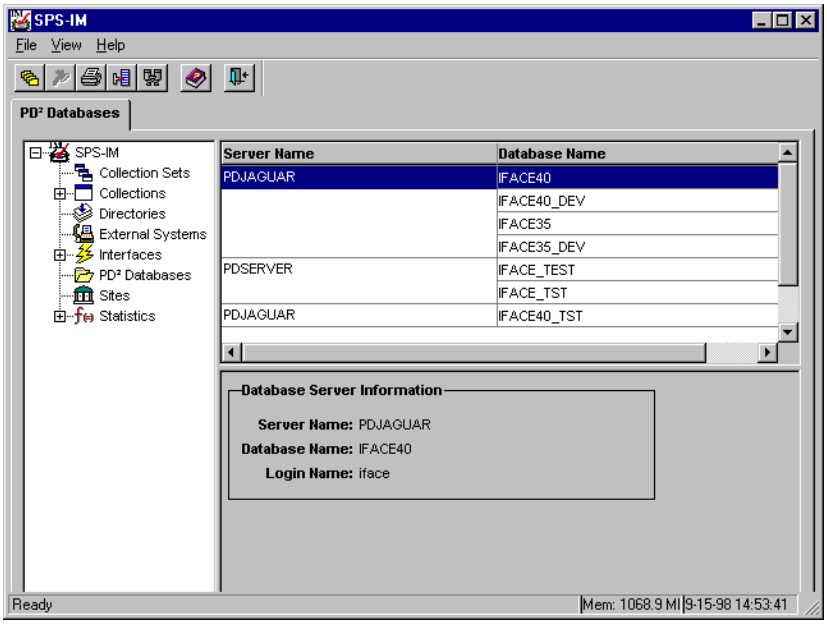
Topic 7: PD² Databases

SPS-I pulls data from and inserts data into PD² databases. PD² databases reside on servers or host machines. The data entered within the PD² Databases Branch allows SPS-I to connect to PD² databases as needed. Once a PD² database is created, it can be selected when adding or editing a PD² site. This designates that database as the source or destination of data for site.

Note: PD² Databases are added during installation of SPS-I at each site. Prior to running interfaces against a database, the SPS-I Administrator must enter a password through SPS-IM.

View a PD² Database

1. Click on the **PD² Databases** option in the Tree Pane.



Summary Pane

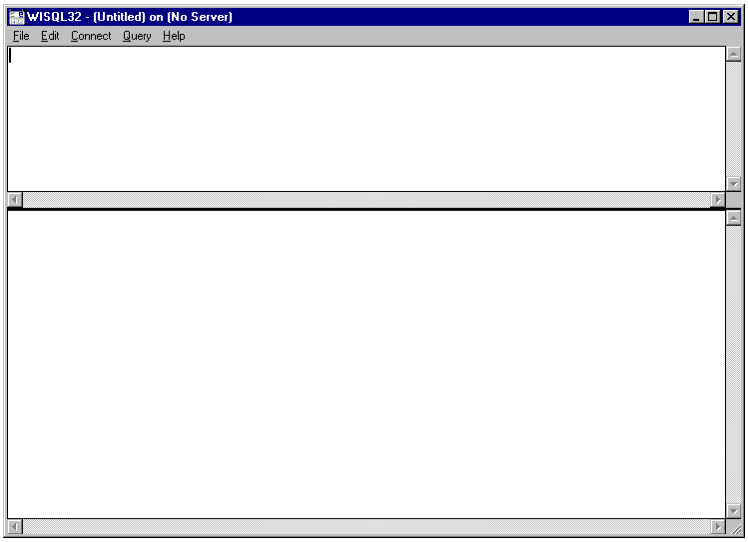
- *Server Name*: indicates the physical name of the database server hosting the PD² database.
- *Database Name*: indicates the name of the PD² database.

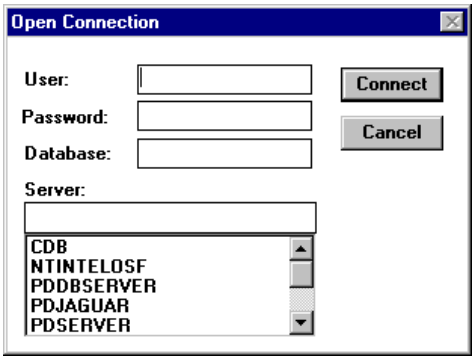
Detail Pane

- *Server Name*: indicates the physical name of the database server hosting the PD² database.
- *Database Name*: indicates the name of the PD² database.
- *Login Name*: indicates the user login name for the database server hosting the PD² database.

Adding a PD² Database

1. Open the WISQL query utility. WISQL is found in the bin directory where IM is installed.
2. Select **Connect** and **Open Connection** and logon to WISQL.

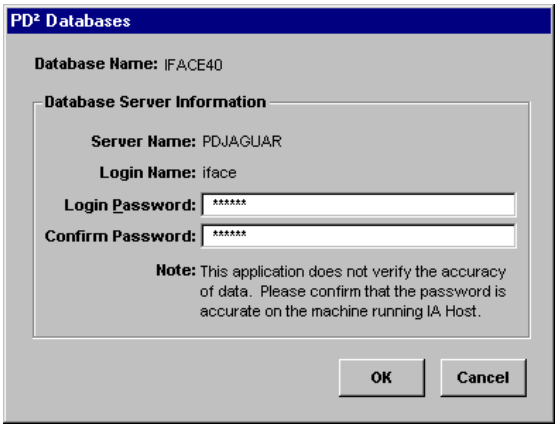




2. **User ID** (Mandatory): enter a Sybase system administrator User ID.
3. **Password** (Mandatory): input the Sybase system administrator Password.
4. **Database** (Mandatory): connect to the IDB database.
5. **Server** (Mandatory): select the IDB Server.
6. Access the "Adding/Deleting a PD² Database.rtf" document found in the bin directory where IM is installed. The document provides the necessary SQL statements to cut and paste into WISQL.
7. In WISQL, paste the SQL statements in the top pane.
8. Select **Query** and **Execute** to add the directory.

Edit Password

1. Select one of the **Servers** from the **Server Name** list in the summary pane. Right click and select **Edit Password.**



2. **Login Password** (Mandatory): Indicates the user login password for the database server hosting the PD² database. Limited to 255 Characters. Displayed in Edit Password window.
3. **Confirm Password** (Mandatory): Indicates the confirmation of the user login password for the database server hosting the PD² database. Displayed in Edit Password window.
4. Select **OK** upon completion.

Note: Updates to the PD² database made with the SPS-IM also need to be made within the

Topic 8: Sites

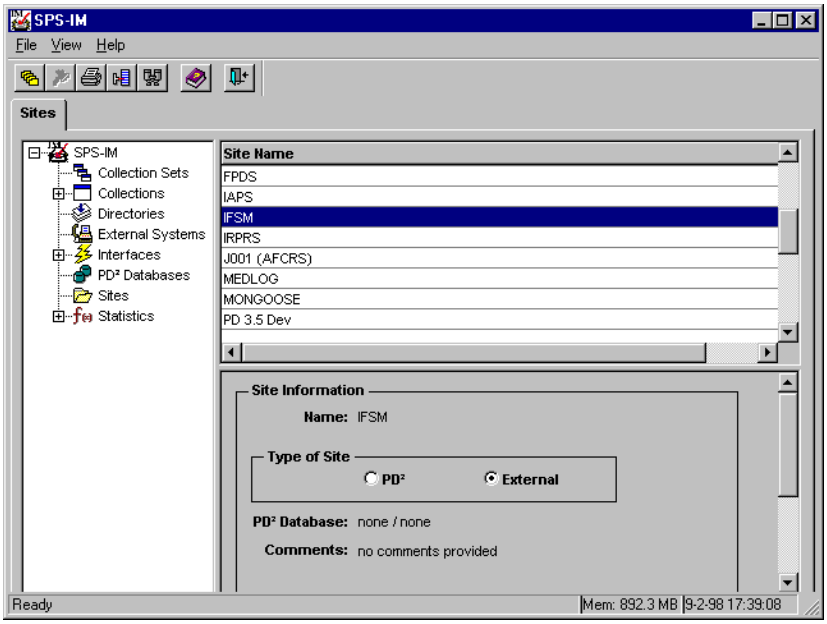
Sites are locations or organizations supported by either PD² (PD² core sites) or external systems (external sites). An individual physical location can have both PD² and External Sites. However, they are logically set up as two sites in the IM.

Interfaces are executed between PD² sites and external sites. This relationship is established during the setup of an interface. Each installation of SPS-IM may administer the interfaces for multiple PD² sites, and each PD² site may interface with multiple external sites.

Note: Users must specify a **PD² database** for each **PD² site**.

Create a Site

1. In the Tree Pane select **Sites**, then right click and choose **Add Site.**



Summary Pane

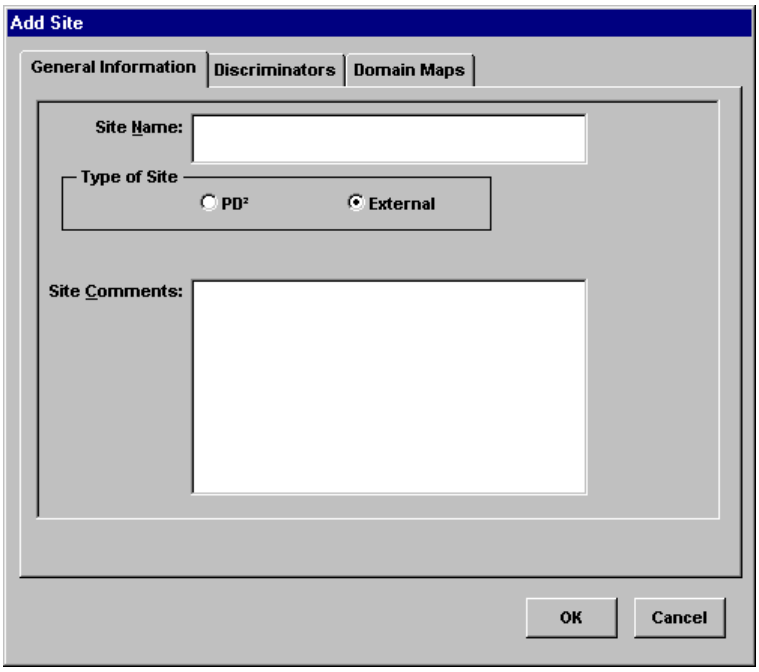
- *Site Name*: the name of the site. Maintained as system or location (UIC) naming convention.

Detail Pane

- *Name*: indicates the name of the chosen site.
- *Type of Site*: indicates whether the site is a PD² site or an external site.
- *PD² Database*: indicates the name of the PD² database for the PD² site.
- *Comments*: indicates the specific site comments.

General Information Tab

2. Enter your **Site Name**, **Type of Site**, and **Site Comments**.



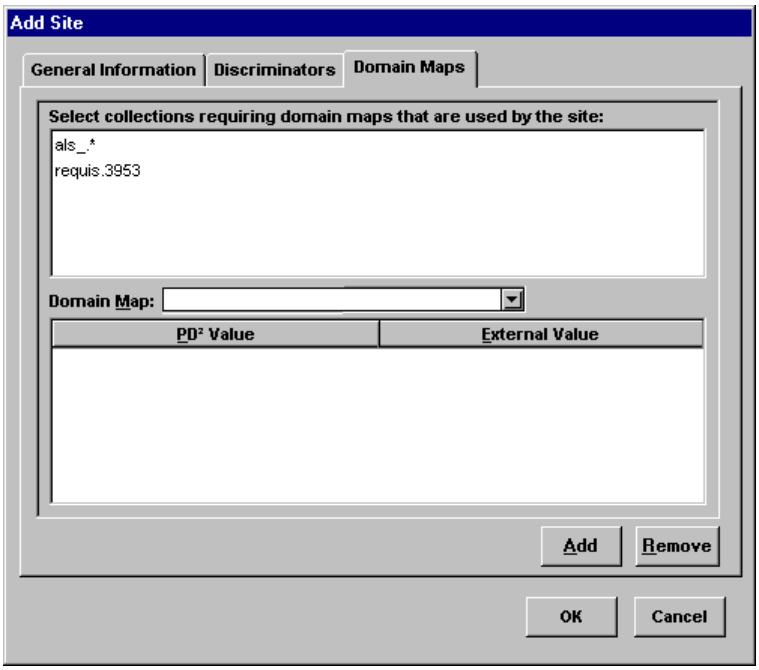
3. **Site Name** (Mandatory): May be 1 to 50 characters in length. Displayed in Add/Edit Site window, Summary Pane and Detail Pane.
4. **Type of Site** (Mandatory): Displayed in Add/Edit Site window and Detail Pane.
   - **PD²:** a PD² site must include a PD² database.
   - **External:** systems that interface with PD². Most external systems support logistics or finance processes.
5. **Comments** (Optional): May be 1 to 255 characters in length. Displayed in Add/Edit Site window and Detail Pane. Site comments are for informational purposes only.

Note: If you enter a PD² Core Site you will need to pick a PD² database. In addition, different "Discriminators" and "Domain Maps" requirements may be made available.

The value of a site discriminator at each site is entered on the Discriminators tab.

Domain Maps Tab

9. Click on the Domain Maps tab and select all the **Collections** that will run at the site. All Domain Maps for the selected Collections must have at least one Domain Map pair added.
10. Enter the PD^2 values and all corresponding external values for each domain map listed.



11. **Domain Map** (Optional): Indicates the name of a site domain map. New site domain maps cannot be entered into SPS-IM.
12. **PD² Value** (Optional): indicates the PD² value. Ensure that the PD² values are exact matches to the values in the PD² database.
13. **External Value** (Optional): indicates external value that will be used in the interface.
14. Select **OK** or **Cancel** to continue.

Domain maps equate PD² element values to collection element values. For example, the PD² domain value for Pennsylvania is "PA;" but if a collection always referred to the state as "Penn," then a domain map would be required to translate from one value to the other. The SPS-IM has only site-specific domain maps.

Note: These fields are required if a **Collection** with applicable **Domain Maps** is selected.

Edit a Site

1. Select a **Site** from the Site Name list. Right click and select **Edit Site.**

General Information Tab

2. Edit the **Site Name**, **Type of Site**, and **Site Comments**.
3. **Site Name:** The Site Name should easily identify the site. May be up to 50 characters long.
3. Select whether the site is a **PD² Site** or an **External Site**. If **PD² Site** is selected, SPS-IM will display a drop down list containing PD² databases.
4. Select the PD² database that runs at the site if the site is a . Each PD² site must have one PD² database. If more than one PD² database is present or supports a single geographic location, then create separate PD² sites for each PD² database.
5. Enter any descriptions of the site or site point of contact information in the **Site Comments** field. Comments may be up to 255 characters long.

Discriminators Tab

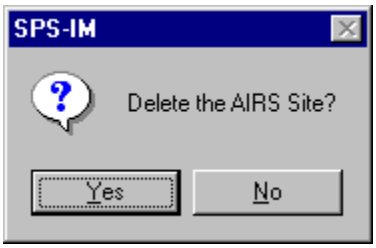
6. Select all **Collections** that will run at the site or need editing.
7. To remove a **Discriminator** all highlighted collections not required must be deselected.
8. Enter the values and select **OK** or **Cancel**.

Domain Maps Tab

9. Select all **Collections** that will run at the site or need editing.
10. Enter the values and select **OK** or **Cancel**.

Delete a Site

1. In the Summary Pane, right click on the desired site and select **Delete Site**. Users will be prompted with a validation box.



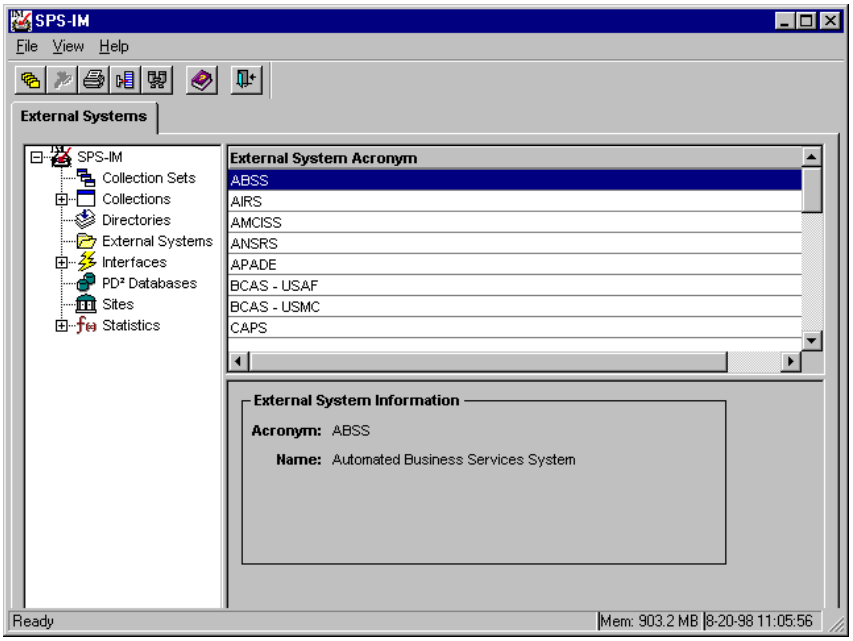
2. Select **Yes** or **No** in order to delete the site.

Topic 9: External Systems

External systems are those systems that interface with PD². Most external systems support logistics or finance processes. They are created so that they can be selected within the Interfaces Branch as systems that exchange data with PD². They act as markers for interface pairs between PD² and the interface system. Interfaces between PD² and external systems are executed at PD² sites and external sites, respectively.

Create an External System

1. Select the **External Systems** branch.



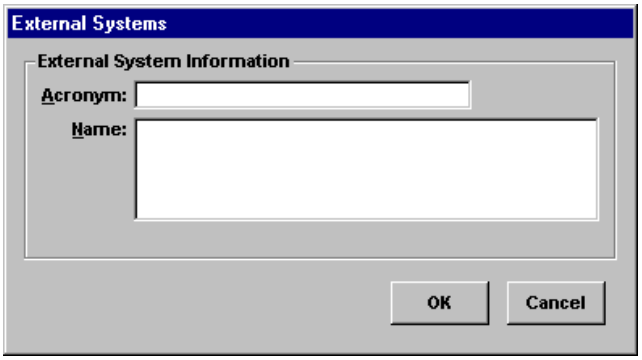
Summary Pane

- *External Systems Acronym*: indicates the acronym, short name, or nickname of the external system.

Detail Pane

- *Acronym*: indicates the short name or nickname of the chosen external system.
- *Name*: identifies the full name of the external system acronym.

2. Right click and select **Add External System.**

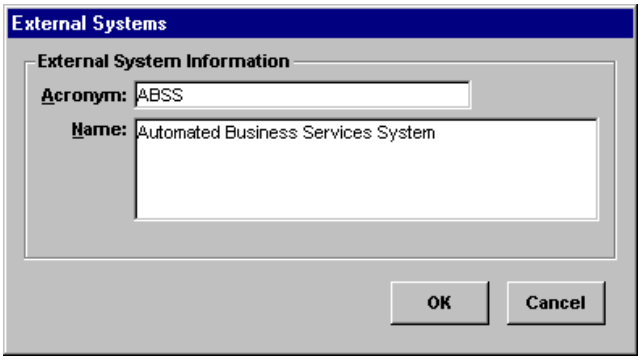


3. Enter the **Acronym** (Mandatory). May be 1 to 10 characters in length. Displayed in Add/Edit External System window and Summary and Detail Pane.
4. Input the **Name** (Mandatory). May be 1 to 100 characters in length. Displayed in Add/Edit External System window, Summary and Detail Pane.
5. Select **OK** to add the external system.

SPS-IM will display an error message if the Acronym or Name fields are blank or if the Acronym or Name has already been used. Otherwise, SPS-IM will add the new external system to the list in the Summary Pane. To cancel the transaction without adding the external system, click Cancel.

Edit an External System

1. Select **External Systems** in the Tree Pane.
2. Select an **External System Acronym** in the Summary Pane.
3. Right click and select **Edit External System**.



4. Select **OK.**

Delete an External System

1. Select **External System** in the Tree Pane and the Summary Pane will populate.
2. Choose an **External System** in the Summary Pane.
3. Right click on a single external system and select **Delete External System**.

If there are no interfaces associated with the external system, SPS-IM will display a message box asking, "Delete the XXX System?" "XXX" means the name of the external system. If there are interfaces associated with the external system, SPS-IM will display a message box stating "System cannot be deleted because X interface(s) are associated with this System." "X" being the number of interfaces associated with the external system. Deletion of an external system that has been selected to interface with PD² in the Interface Branch would impact execution and is, therefore, prohibited by SPS-IM.

4. Click **Yes** to delete the external system. The summary pane will be updated to reflect the deletion. Otherwise, click **No** to cancel without deleting.

Key Points

- Collections, and the elements within collections, are defined prior to SPS-I deployment and cannot be modified via SPS-IM.
- Collections can contain multiple records.
- Collections can be dependent on one another in terms of processing or physical storage.
- Collection Sets are groups of collections that are executed together in a specific order either for logical or required reasons.
- Directories are physical locations where SPS-I will place or receive interface files and log files. They are added during the installation of SPS-I at each site.
- Most data within the PD² Databases Branch will be added during installation of SPS-I at each site and cannot be edited through the IM. However, the SPS-I Administrator (through SQL commands) must add a login name and password for each PD² Database prior to running interfaces against it, and can change the stored password as needed via the IM GUI.
- SPS-I pulls data from and inserts data into PD² databases. PD² databases reside on servers, or host machines. The data entered within the PD² Databases Branch allows SPS-I to connect to PD² databases as needed. Once created, a PD² database can be selected when adding each PD² site to designate it as the source or destination of data for interfaces at that site.
- Sites are locations or organizations supported by either PD² (PD² sites) or external systems (external sites).
- Some collections contain elements such as the UIC or DODAAC that uniquely identify a site. These elements are called site discriminators. Site discriminators can be associated with either PD² sites or external sites. The value of a site discriminator at each site is entered in the Sites Branch.
- Site domain maps equate PD² element values to collection element values. For example, the PD² domain value for Pennsylvania is "PA;" but if a collection always referred to the state as "Penn," then a domain map would be required to translate from one value to other. The SPS-IM has only site-specific domain maps.
- External systems are those systems that interface with PD².
- Directories are physical locations where SPS-I will place or retrieve interface files and log files.

Administration

Administration Objectives

Users will learn to apply the SPS-IM maintenance tasks in support of administering the IM interfaces. In addition, the user will demonstrate the ability to maintain existing and create new interfaces, as applicable.

At the end of this lesson, users will gain understanding in the following components of the IM:

- Interfaces Branch
- Job Scheduler
- Statistics Branch

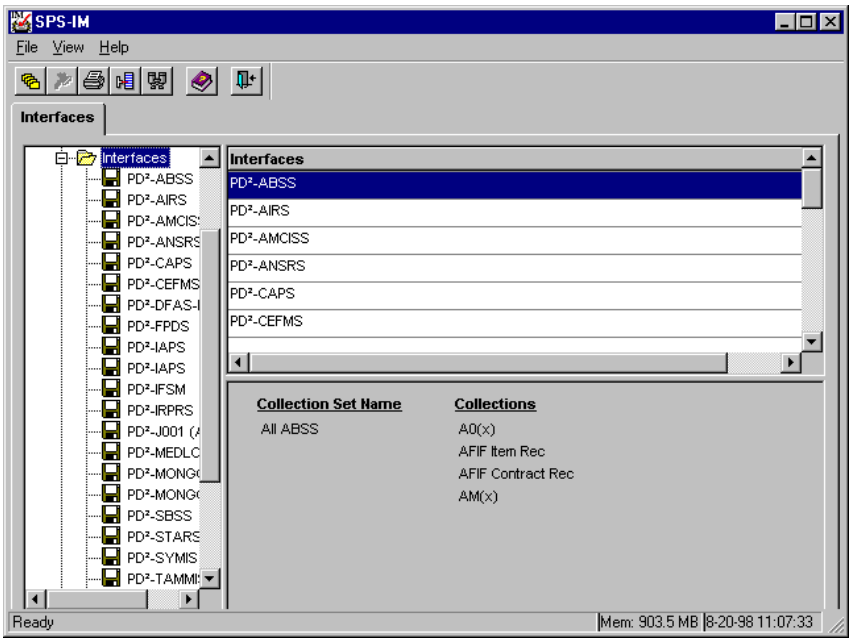
Topic 10: Interfaces

An interface is the movement of data between systems. An SPS-I interface represents the movement of data between PD² and an external system. SPS-I interfaces are executed between PD² sites and external sites. They consist of collections that are grouped into one or more collection sets and stored as files on directories.

Note: All of the maintenance tasks (e.g. Collections, Collection Sets, Directories, Databases, External Systems and Sites) are 'building blocks' for interfaces.

View an Interface

1. Click on the **Interfaces** branch to retrieve Summary and Detail Pane information.



Summary Pane

- *Interfaces*: specifies the two systems within an interface.

Detail Pane

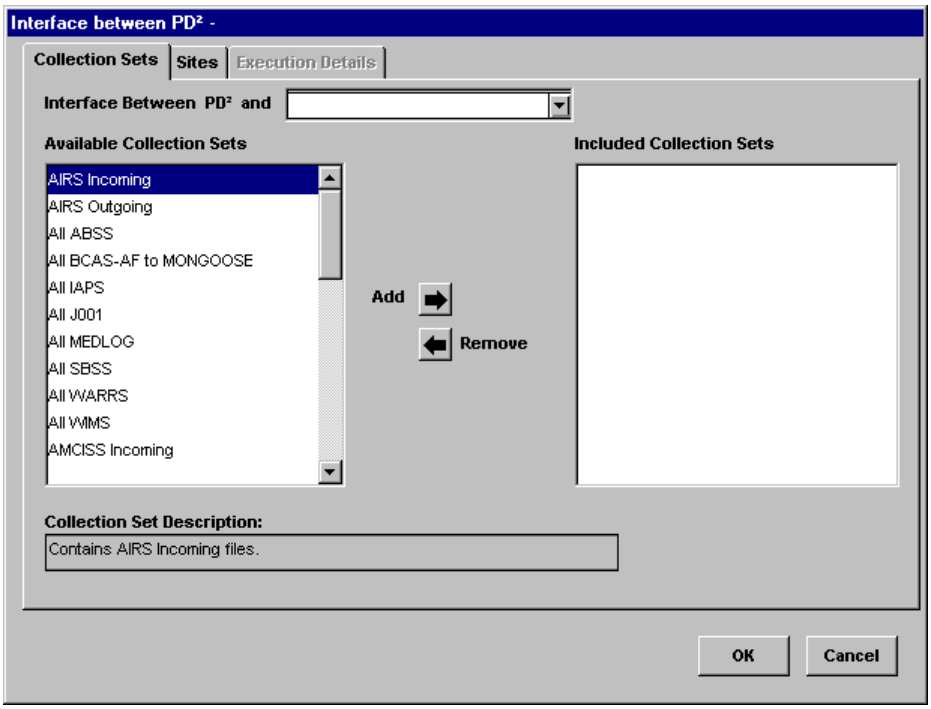
- *Collection Set Name*: name of the Collection Set applicable to the selected interface.
- *Collections*: listing of the collections associated with the Collection Set.

Note: Disabled interfaces will appear red in the Summary Pane.

Creating a New Interface

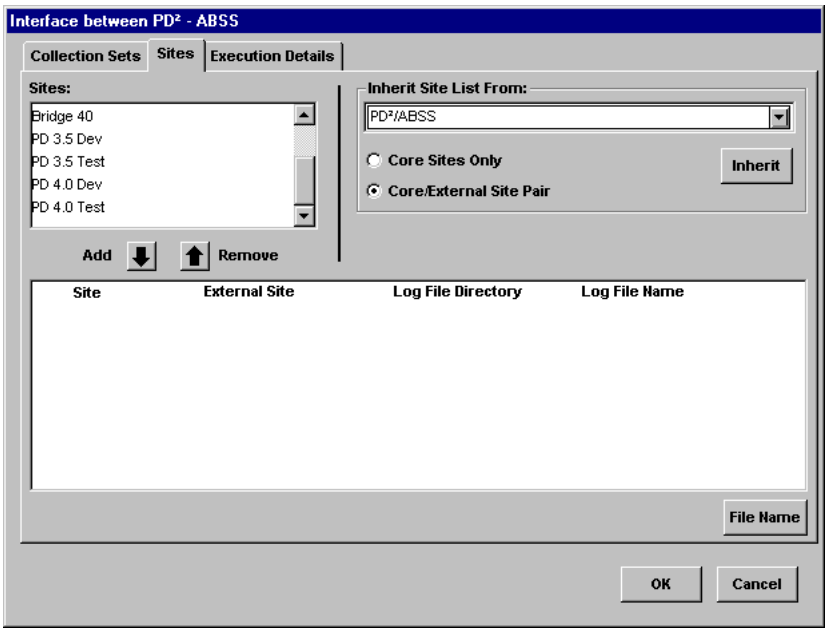
1. Right click on **Interfaces** in the Tree Pane and select **Add Interface**. SPS-IM will display the Add Interface window. It contains three tabs: Collection Sets, Sites, and Execution Details.

Collection Sets Tab



2. In the drop down list box labeled "Interface Between PD² and" select the **external system** participating in the interface.
3. Select the applicable **Collection Set(s)** that will be executed as part of the interface. Click the **Add** push button to add the Collection Set to the Interface. The Collection Set should appear under "Included Collection Sets." A description of the collection set will appear below the Collection Set list.

Sites Tab

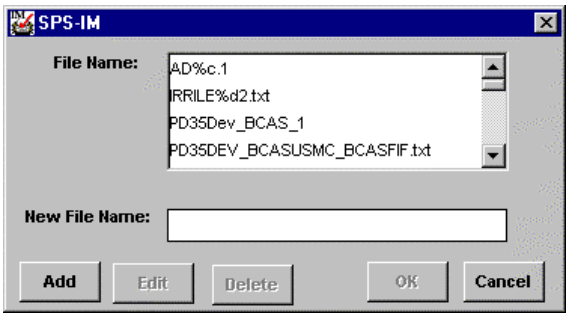


4. Select a **PD² Site** for this Interface from the available **Site List**. Click on the **Add** arrow. The **PD² Site** that the user created during the **Site** task will display in the drop down list.

5. Select the **External Site** that the PD² site will interface with from the drop down list. The **External Site** that the user created through the **Site** branch will display in the drop down list.

   To inherit the list of sites from another interface, select the interface from the **Inherit Site List From** list. Specify whether to inherit the core sites only or the site pairs and press the **Inherit** button.

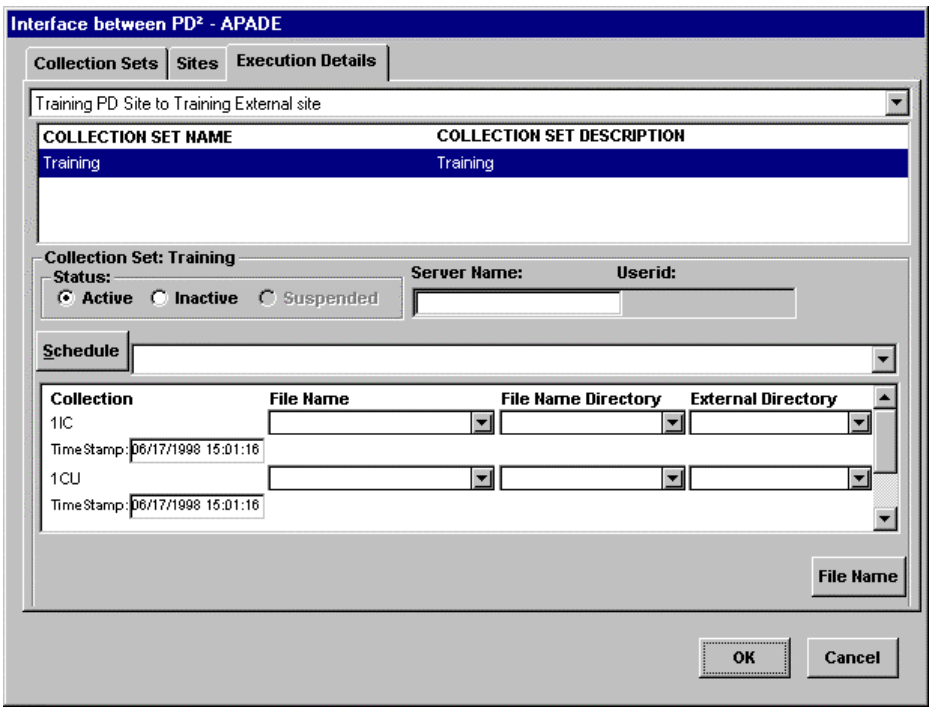
6. Select a **Log File Directory** for the site. To select a log file name, select an existing file name from the **Log File** drop down list or in order to add a new file name to the drop down list select the **File Name** button located in the bottom right hand corner of your screen.



7. Type a file name in the **New File Name** Box.
8. Select **Add.**
9. Select **OK.**

Note: To administer the interface for multiple PD² sites, add each site from the **Sites** list. If a PD² site can execute the interface with more than one external site, add the PD² site multiple times and select a different external site for each.

Execution Details Tab



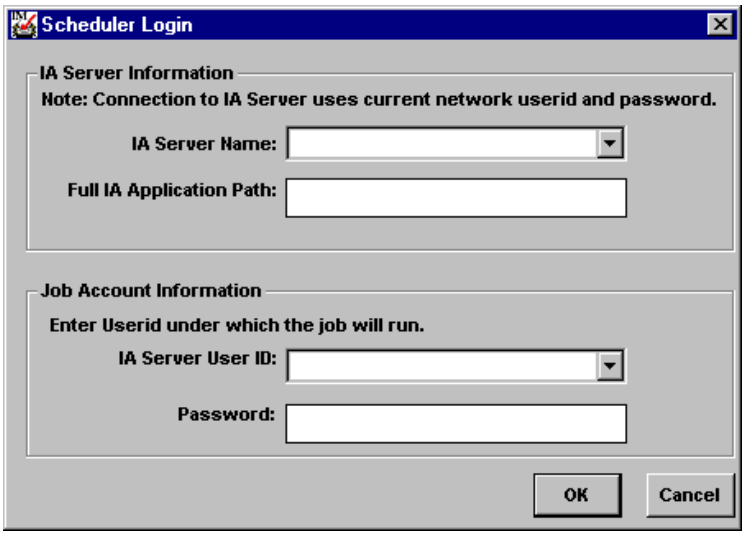
10. Select the site pair from the drop down list in the top of the window.
11. Select a collection set from the **Collection Set Name** box.
12. Select the appropriate **Collection Set Status** radio button.

- **Active:** runs the collection set based on a specified schedule.
- **Inactive:** disallows the collection set to be scheduled, or executed.
- **Suspended:** allows you to schedule the collection set, but you will not be able to run it until you return the status to **Active**. This is useful to temporarily halt the interface process.

13. Select an existing file name from the **File Name** drop down list or choose the **File Name** push button located in the bottom right hand corner of your screen to add another file name.
14. Select the appropriate directory from the **File Name Directory** drop down list.
15. Select the external directory for which the file will be written from the **External Directory** drop down list.
16. Select the **Schedule** push button.

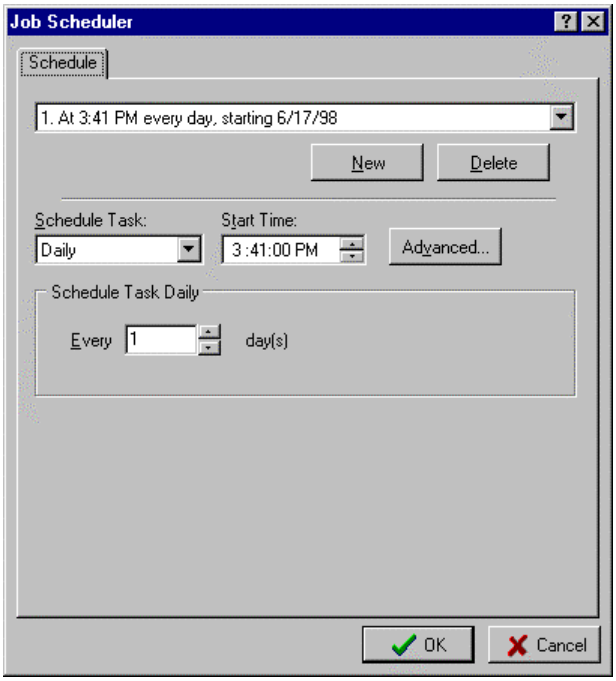
Note: The same file name and directory for multiple collections mean that all collections will be appended to that file for an execution.

Scheduler Login



17. Select the desired **IA Server Name** from the drop down list. The IA resides on this server.
18. Enter the **Full IA Application Path** (Required). This is the path pointing to the IA executable file on the server.
19. Enter the **IA Server User ID** (Required). This is the user id **User ID** and **Password** of the Administrator who will execute this Interface onto the IA server.
20. Enter the IA system administrator **Password** (Required).
21. Select **OK**.

Job Scheduler

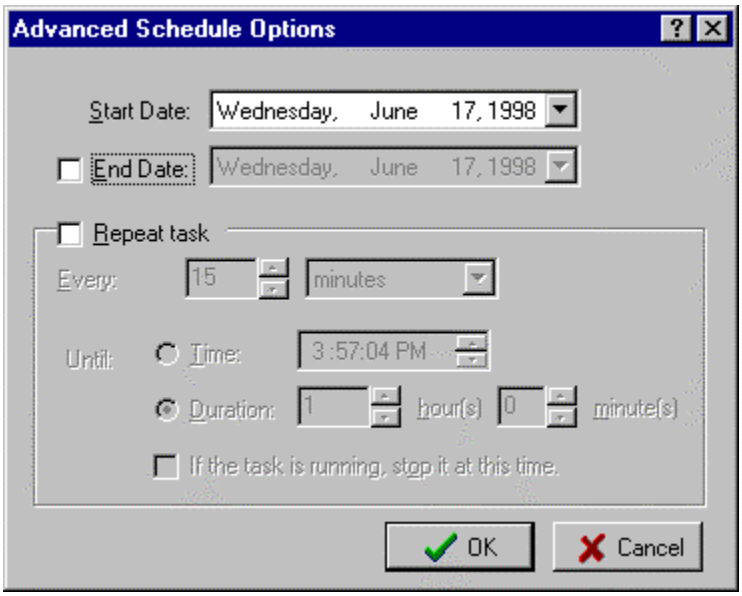


- **Schedule Task:** The frequency of interface execution, i.e., weekly, monthly, quarterly.

22. Select an existing schedule from the drop down list or select **New** to create a new schedule. The Schedule Number will increase every time you select the **New** button.
23. Select the desired frequency in which the action will transpire from the **Schedule Task** drop down list. Then designate a start time or select the **Advanced** radio button.

Note: The Advanced Radio button allows the System Administrator more detailed scheduling options.

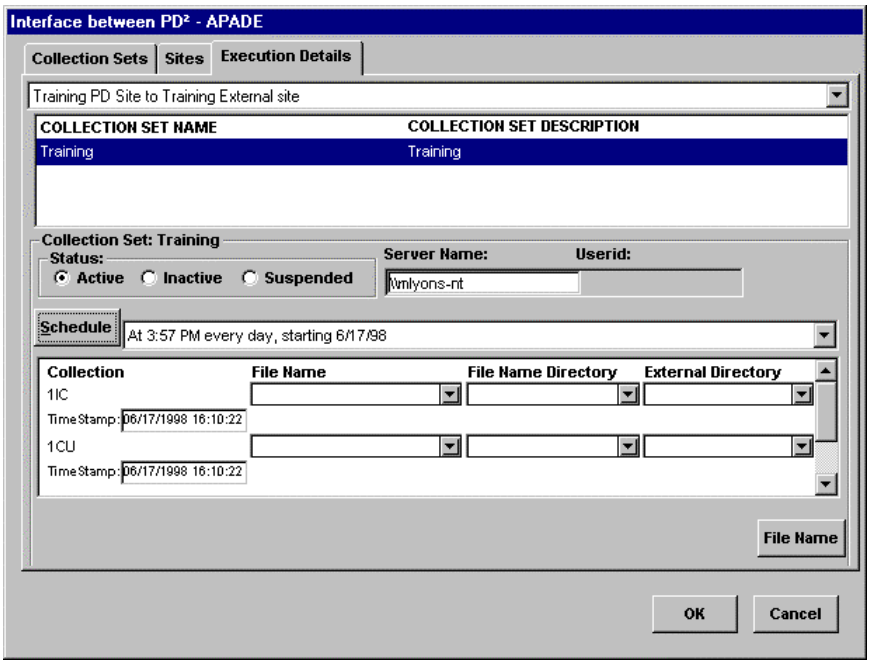
Advanced Schedule Options



24. Select the appropriate **Start Date** from the drop down calendar.
    - **Start time** (Required): the time that the interface will begin executing.
25. Select the **End Date** box to access the **End Date** calendar (Optional).
26. Select the **Repeat Task** box.
    - **Repeat Task:** determines how often transaction will be conducted (Optional).
27. Select **OK** to return to the **Job Scheduler** screen.
28. Select **OK** to return to the **Interfaces/Execution Detail** screen.

Note: Repeat steps 13-28 for each collection in the collection set. Follow steps 11-28 for each collection set. For each interfacing site pair repeat steps 10-28.

Execution Tab



29. To add a new file name, select an existing file name from the drop down list or select the **File Name** push button located in the bottom right hand corner of your screen.
30. Select **OK** to save the new Interface.

Edit an Interface

1. Select the **Interfaces** Branch in the Tree Pane to view a list of interfaces in the Summary Pane or expand the Interfaces Branch and select an individual interface in the Tree Pane to view a list of site pairs for the interface.
2. Right-click on a single interface or a site pair in the Summary Pane and select **Edit Interface** in the pop-up menu that appears. SPS-IM will display the **Edit Interface** window populated with existing data values. Editing an interface will directly impact the execution of that interface.
3. Modify the interface data as appropriate. Follow the steps described under "Creating a New
4. Click **OK** to save the changes or **Cancel** the transaction without saving any edits.

Deleting Interfaces

1. Select the Interface Branch in the Tree Pane.
2. Right click on a single interface in the Summary Pane and select **Delete Interface**. SPS-IM will display a message box warning the SPS-I Administrator that collection sets and site pairs will be removed from the interface if the interface is deleted.
3. Click **OK** to delete the interface. The Summary Pane will be updated to reflect the deletion. Otherwise, click **Cancel** to cancel without deleting.

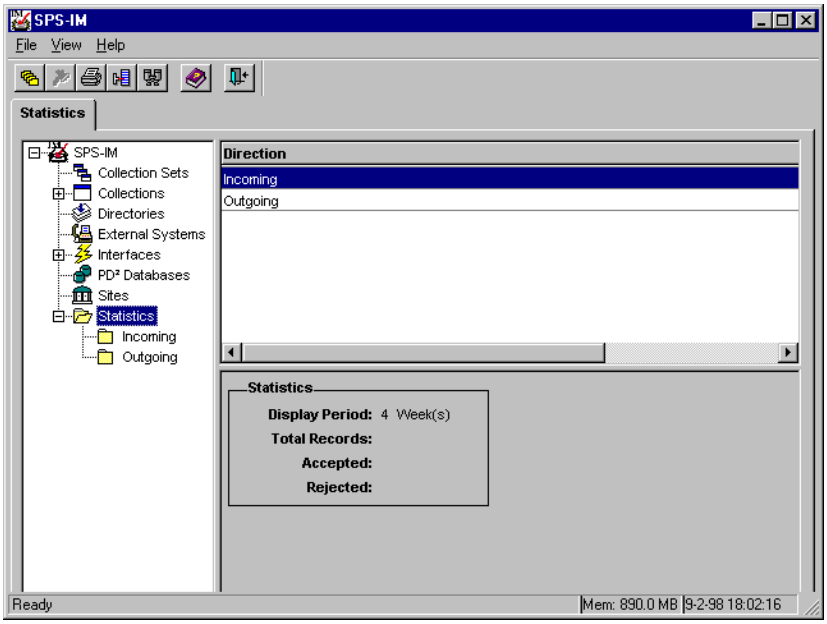
Topic 11: Statistics

The Statistics Branch displays data regarding past interface executions for a specified display period. Data is displayed either at a summary level that includes aggregate data on incoming or outgoing executions. On a detailed level, data includes specific information on individual interface executions.

Note: When viewing interface execution details, data regarding each interface execution is displayed in the summary pane. The executed collection set includes a row for each collection. The volume of execution records available for display in the Summary Pane at any given time can be increased or decreased by editing the display period.

View Statistics

1. Click on **Statistics** to view Incoming or Outgoing files.



Summary Pane

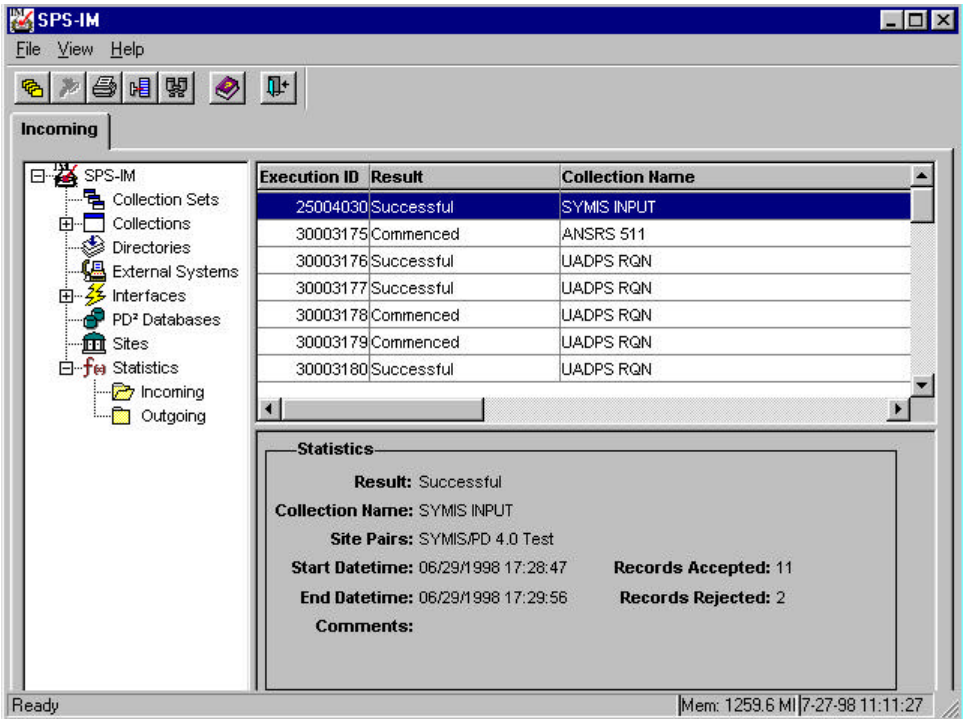
- *Incoming*: displays records of "Incoming" files from an external system to
- *Outgoing*: displays records of "Outgoing" files from PD² to an external system.

Detail Pane

- *Display Period*: the volume of execution records available for display.
- *Total Records*: total number of records executed.
- *Accepted*: total number of accepted records.
- *Rejected*: total number of rejected records.

View Incoming or Outgoing Files

1. Click on the Incoming Folder in the Tree Pane and select the desired file.



Summary Pane

- *Execution ID*: numerical value for the file execution.
- *Result*: displays the outcome of the execution.
    1. Successful-- the execution ran correctly.
    2. Unsuccessful-- the execution did not run.
    3. Commenced~~the~~ interface is in progress.
- *Collection Name*: the name of the collection executed.
- *Site Pairs*: name of the interfaced external site and the PD² site.
- *Start Datetime*: date and time in which the execution began.
- *End Datetime*: date and time in which the execution terminated.
- *Records Accepted*: total number of accepted records during execution.
- *Records Rejected*: total number of rejected records during execution.

Detail Pane

- *Result*: displays the result of the execution (i.e., successful, unsuccessful, or commenced).
- *Site Pairs*: name of the interfaced external site and the PD² site.
- *Start Datetime*: date and time in which the execution began.
- *End Datetime*: date and time in which the execution terminated.
- *Records Accepted*: total number of accepted records during execution.
- *Records Rejected*: total number of rejected records during execution.

- *Comments*: records any problems or corrective steps taken regarding an incoming execution record.

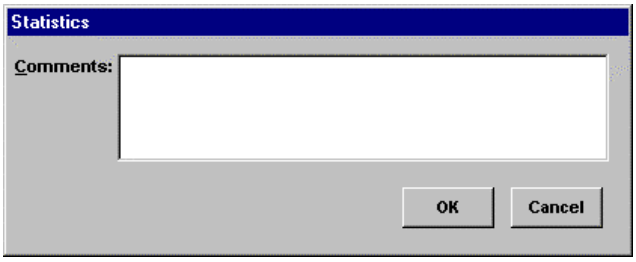
Incoming vs. Outgoing

- *Incoming*: provides the option to either add comments or re-execute files.
- *Outgoing*: only permits the Administrator to re-execute fixed length files.

2. Click on the column headers if you would like to alphabetically sort the information.

Add Comments

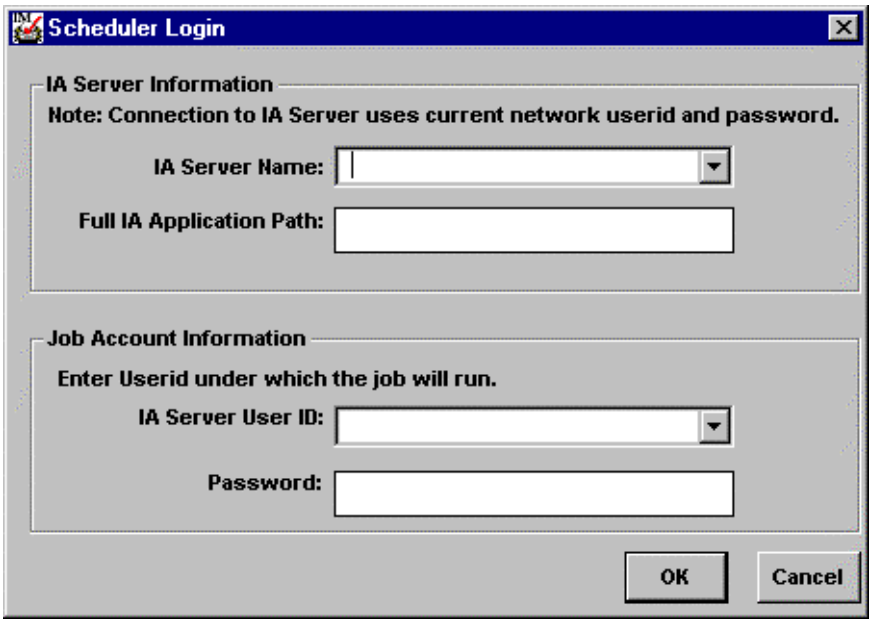
1. Select the desired file. Right click and select **Edit Comments.**



- SPS-IM provides SPS-I Administrators the ability to record text comments for each incoming execution record. In this way, SPS-I Administrators can record any problems that occurred or corrective steps taken to resolve problems for incoming interfaces.

Re-Execute Files

1. Select the desired file in the Summary Pane. Right click and select **Re-Execute.**
2. Select **Yes** to continue.
3. You will be prompted to log into **Scheduler.**

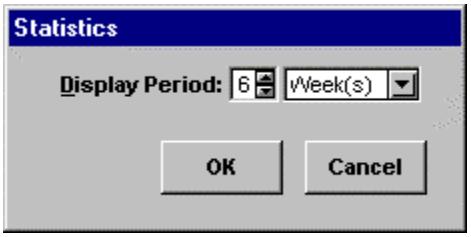


4. Enter the IA Server Information:
   - **IA Server Name** (Mandatory).
   - **Full Application Path** (Mandatory).
5. Input the Job Account Information:
   - **IA Server User ID** (Mandatory): Domain/User Name.
   - **Password** (Mandatory): the Userś Network Password.
6. Select **OK** and you will be taken to **Scheduler.**
7. Define the time re-execution will occur and select **OK.**

Note: If a file was unsuccessfully transmitted, SPS-IM enables user to retransmit that file.

Edit Display Period

1. Select the **Statistics** folder. Right click and select **Edit Display Period.**



2. **Display Period** (Mandatory): The time period that determines timeframe for displaying interfaces status.

Key Points

- It is by adding data to the Interface Branch within the IM that the SPS-I Administrator specifies the execution parameters that determine when and where an interface will be executed, and what collection sets (and thus, collections) it will contain.

- An interface execution denotes the processing by IA of a single collection within a collection set, at a specified time, between a PD² site and an external site. Summary-level data is displayed, or individual execution records can be viewed, for all interface executions processed over a user-specified time period. The time period that can range from one day to six months is called the display period.

- When viewing interface execution details, data regarding each interface execution is displayed as a single execution record (row) in the Summary Pane. The volume of execution records available for display in the Summary Pane at any given time can be increased or decreased by editing the display period.

- The Statistics Branch displays data regarding past interface executions for a specified time period. Data is displayed either at a summary level that includes aggregate data on incoming or outgoing executions, or at a detailed level, including specific information on individual interface executions.

Glossary

Active	indicates that the collection set will be executed as part of the interface for the specified site pair
Business Rule	describes when and why the collection is sent to and from an external system
Collection	a physical grouping of elements; they have defined contents, physical characteristics, and business rules
Collection Description	short description of the collection
Collection Period	frequency with which the collection is executed (e.g., relative, weekly, monthly, etc)
Collection Sets	groups of collections that are executed together in a specific order
Detail Pane	provides specific information pertaining to the action/collection selected
Directories	physical locations where SPS-I will place interface files and log files
Discriminators	attributes of a collection such as the Unit Identification Code (UIC) that uniquely identify the site
Elements	atomic pieces of information which are physically grouped into collections and can be classified under one of two categories: core or interface. Core elements are known to the core systems and can be part of core collections. Interface elements will be placed in an interface collection for later execution and must be mapped to core elements
External Directory	name of the directory where the file containing the collection will be placed when executed for the site pair
External Systems	external systems are those systems that interface with PD²

File Name — name of the physical file into which the collection will be placed when executed for the site pair

Inactive — indicates that the collection set will not be executed as part of the interface for the specified site pair

Interface — movement of, or access to, data. An SPS-I interface represents the movement of data between PD² and an external system. SPS-I interfaces are *s* and external sites. They consist of collections that are grouped into one or more collection sets and stored as files on directories.

Log File — a file that contains the execution data for an interfacing site pair

Log File Directory — name of the directory where the log file containing execution data for an interfacing site pair will be placed

Log File Name — physical name of the log file containing execution data for an interfacing site pair

PD² Databases — PD² databases reside on servers or host machines. The data within the PD² Databases Branch allows SPS-I to connect to PD² databases and their servers as needed. A PD² database is selected when adding a PD² site to designate it as the source or destination of data for interfaces at that site.

Schedule — frequency with which the interface will run, i.e., weekly, monthly, or quarterly

Sites — locations or organizations supported by a system. There are two types of sites: PD² sites and external sites. PD² sites are locations or organizations that run PD², while external sites are supported by a system with which PD² interfaces (i.e., an external system). SPS interfaces are physically executed between PD² sites and external sites.

Site Pair — PD² site and an external site that are interfaced by SPS-I

Summary Pane — displays individual items, or instances of a branch or sub-branch selected in the Tree Pane (e.g., if the Collections Branch is selected in the Tree Pane, a list of collections will appear in the Summary Pane).

Suspended	indicates that the collection set has been disabled from executing as part of the interface for the specified site pair
Tree Pane	contains branches that represent interface components (e.g., collections, collection sets, and sites)
Workspace Panes	mechanism for organizing the display of information/tasks in SPS-IM. There are three panes used (Tree Pane, Summary Pane and Detail Pane) to facilitate workspace management.
Workspace Tabs	enables users to display multiple branches concurrently and easily switch from an item in one branch to an item in another.